

Teaching Method for Industrial Design Practice Course based on Cultural Experience

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Abstract. In this work, the teaching method for Industrial Design Practice Course based on cultural experience is studied. This method is elaborated from teaching contents, teaching philosophy and teaching contexts of cultural experience. The implementation strategies and teaching principles of this method are illustrated through analyzing a teaching case. The method that the teachers help students carry out targeted creative design activities on the basis of establishing cultural values in Industrial Design Practice Course has proved to be a good teaching method worth trying.

1 Introduction

Human and culture are interdependent. As a creative activity of man, industrial design is closely related with the cultural system. The relationship between culture and industrial design can be understood as the relationship of culture, designers, products, design process and users. Culture is influenced by various factors such as history, economy, politics, regions, customs, aesthetic appreciation, and ideas. Based on the cultural backgrounds of both users and themselves, the designers create products that not only inherit traditional culture but also meet the specific requirements of users. These products designed with cultural elements manifest new cultural meanings, and can form a new culture in the long-term accumulation and precipitation [1]. Man plays a crucial role in the relationship of culture, design, and man (including designers and users). Designers integrate the inherited or created cultural elements into the products, while users have their own understandings and preferences when choosing products, both of which rich the cultural connotation and broaden the cultural denotation.

Descriptions of the connection between the industrial design education and culture have been found. A range of contemporary literature is presented to help define the term “creative industries”, and to locate this new “culture of creativity” within a wider global trend of creative cultural theory [2]. David [3] proposes that the influence of culture changes on man is assignable, which is a problem the designers should take seriously. Fler [4] describes recent developments in science, culture and technology and the materials produced to support teachers in the instruction of science and technology programs. More and more domestic and foreign researchers focus on the relationship between culture and specific design practice. The user-designers would be able to transform their model-driven or theory-driven approaches to system applications into cultural approaches to the cultivation of system “thinking” and design “thinking” [5]. Gou [6] suggests extracting the genes of Banpo Painted-Pottery Culture based on genetic theory and introducing the principles of genetic engineering into the design process.

From the perspective of cultural experience, this study explores how to help students perceive and understand the great value of culture for design in the teaching process of Industrial Design Practice Course and carry out targeted design creative activities.

2 Objective of Teaching Reform in Practice

Culture is the most precious treasure of man. As a communicator between culture and products, the designer should cherish the profound value of culture. In design education, it is surely worth a

try for the tutor to guide the students to re-examine their own cultural experience with culture as a foundation from the cultural perspective, and explore the coherent point of culture and design by combining cultural experience with design methods, thus promoting the benign co-development of culture and design.

In fact, many interesting entry points can be found for the above objective, such as human culture background. The elements, such as people's living needs, social circumstances, technology and production modes, and improvement of thoughts and ideas, form a profound cultural ecosystem. This ecosystem contains not only invisible spiritual culture but also visible epochal and regional language or information symbols, from which the designers can absorb rich nutrients to inspire them to transform abstract design inspiration into concrete usable products [7]. Moreover, a new situation of cross-border cultural fusion and integration has been formed with the development of era, and the emergence of novel technologies, materials, functions and ideas, which opens a huge space for the creation of designers. Design needs to satisfy the different hobbies and interests of people from all walks of life, and probe into various specific and effective expressing methods to adapt to different cultures [8].

3 Related Factor Analysis of Cultural Experience Teaching

The teaching contents of professional industrial design courses usually include design methods, design processes, design skills, design history and design applications, which are limited to design itself, but lack the perception and understanding of design from a larger cultural ecosystem. In fact, the close association between design and man decides that design is a kind of cultural content. Hence, it is necessary to introduce cultural concepts into the design of teaching contents. Especially, in designing practice courses, the teacher should guide students to explore, consider and analyze the cultural environment they are involved in so as to find creative designs more convincing and closer to design objectives.

Cultural contents are so rich that it is unrealistic to explain every knowledge point in the teaching process. The most important function of teaching is inspiration. In terms of cultural experience, teaching inspiration can start from several perspectives.

A. Cultural Genes. The psychological deep structures, collective unconsciousness, and traditional thinking modes of different ethnic groups are filtered by space and precipitated by time, and constitute the core contents of "cultural genes" which are the guarantee of cultural heritage and the differences in national spirits [9]. Therefore, cultural genes play an important role in design.

B. Epochal Characters. Diversification and fusion are epochal characters of culture. The differences in nature, humanity, aesthetic appreciation, habits, etc. constitute the diversification of culture and contribute to diversified design features. Increasingly closer global connection makes cultural exchange and collision become inevitable. The development of different ethnic groups and different regional cultures gains new vitality from "common enjoyment". Global connection has become the power and inspiration for the development of design [10].

C. Traditional Cultures of Different Ethnic Groups. The traditional thinking, traditional culture, and traditional life of different ethnic groups influence and dominate all aspects of contemporary people, thus forming holistic view, systemic view, space-time view, connection view, etc. as the design culture of art of living and the direct materialized results of these thoughts. For instance, the "three components" in western design is in line with German designers' thinking habit of seeing through the appearance to perceive the essence. Therefore, it is of great significance to inspire students to apply the thinking mode or concept of "tradition", i.e. "constant rules", from this respect to explore the design themes keeping up with the times.

4 Teaching Cases of Cultural Experience

Life cannot do without water for human. The topic: Designing a drinking product suitable for office space.

After the research of preliminary product design, including investigation and analysis of comprehensive information of users and existing products, function and defect analysis of existing products, new technologies related to design objective, investigation and analysis of patent information, segment market attractiveness evaluation, and presentation of product development and design positioning, the design team can gradually implement their creative design ideas. In the creativity stage, the design team needs to collect, analyze, sort and summarize the numerous targeted data, which is a process of research and thinking. Afterwards, the useful cultural information is digested and absorbed so as to form the preliminary design materials. The cultural elements in this case refer to this specific cultural theme of “water utilization, water storage, and water drinking”.

This design is positioned on the refining and concept application of specific cultural symbols in public space, namely, purposeful and targeted capture of cultural elements, and the cultural elements are applied using modern design methods by combining with the preliminary results of the product design. Figure 1 represent the analysis and summarizing of Design Elements from different historical periods of ancient Chinese culture.

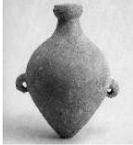
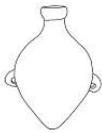
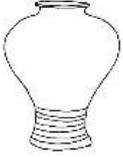
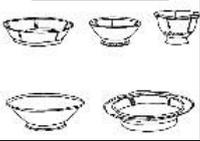
Types	Examples	Analysis and Summarizing
Thin-necked & Big-bellied		
Wide-mouthed & Big-bellied		
Sacrificial Vessels		
Bronze Drinking Vessels		
Barbican Gold & Silver Vessels		
Drumstick Jug		
Gold & Silver Vessels		

Fig.1. The analysis of design elements

The analyzed and summarized materials are usually figurative states of matter, and have limited effect in inspiring design. Teachers need to guide students to summarize and process the raw materials into useful materials, and then transform these materials into concrete design images, the process of which is called “material symbolization”(Figure 2). In this case, the students of the design team simplify and abstract the formal characteristics and cultural representations of water

vessels and drinking vessels into the symbolic language of these kinds of materials. The cultural connotations are delivered to users through creative products in appropriate direct or indirect expression techniques without limiting the application forms and techniques.

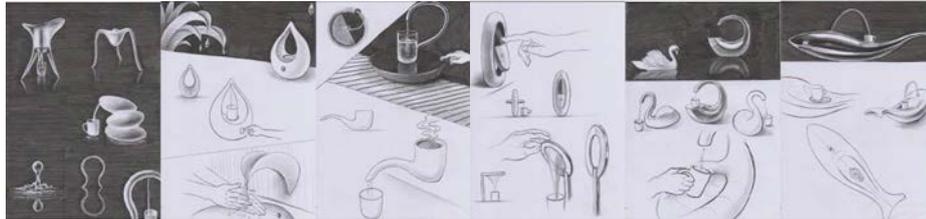


Fig.2. Generalization and Application of Design Elements

Sources of creativity: In ancient China, people have a custom of cooking wine. A pot of unstrained wine symbolizes joyful reunion and great success. Thousands of years later, people's drinking habits have also changed dramatically. The heating function of this product can evoke people's surge of discussing heroes while cooking wine. In the cold concrete city, people can have a drink while enjoying the natural sound of the jade vessel.

The material of this product is transparent as jade and gives people a gentle feeling. It reminds people of the sweetness and pureness of wine. This product is shaped like a Yi which was used in the palace in the Spring and Autumn Period. Glossy and transparent, this product is structured like a big axe. After careful observation, it is found that this product is aesthetic in its shape and is a rare treasure. Made with materials are similar to jade, this product can manifest a high degree of unity of cultural connotations and modern streamline aesthetics (Figure 3).



Fig.3. Figure of Optimal Design Plan

5 Teaching Methods of Cultural Experience

The soul of design is always consciousness rather than the concrete external form. Hall ever said, "Culture exists in two levels, public culture and hidden culture." The former is visible and easy to be described, while the latter can be acquired only through experience. Some scholars summarized culture as the model system of symbols and meanings. The model can be understood as the systematicness and stability of culture; symbols refer to linguistic, nonlinguistic or other symbols in the reality; and meanings refer to the culture that people live on and constitute a meaning system which explains cultural orientation, social norms, world outlook and values in the society. Therefore, the teaching objective advocated in this study is guiding students to focus on, excavate and understand the essence of culture, namely, encouraging students to probe into the more profound contents from materialized representation at the ideological level, such as beliefs, values and attitudes, so as to understand the theories and rules behind the nature and unconsciousness, equip the students with the organizing and deconstructing abilities in the later stage of creative expression, and create nonfigurative design works with cultural connotations.

6 Conclusion

Integrating cultural experience into teaching in a real sense, and enabling students to realize the great enlightening value that culture brings to design and creation is a worthy method to improve

the industrial design education. Cultivating students' high sensitivity towards culture is one achievement of this research. The process of exploring the breadth and depth of culture is a progressive process. Teachers can start by firstly inspiring students to explore the development and foresee the future of their own culture, and gradually extending to the more profound subjects which are cross-regional, cross-population, or cross-ethnic. Cultivating students' thinking way of tracing the sources is the second achievement of this research. Teachers should inspire students to cast aside visible figurative elements or symbols and feel the essence and core ideas of culture, probe into the profound problems such as the effects of religion, custom and etiquette on national public interest, and reflect on the design based on understanding. Deepening the humanistic concern and social responsibility of teachers and students is the third achievement of this research. In fact, the teaching philosophy of this research emphasizes the cooperation and joint exploration of teachers and students. Hence, teachers and students have profound cultural thinking and experience throughout the learning process. The broad cultural state and persistent cultural pursuit is a reflection of the social responsibility of every designer.

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